

RESPONSE UNDER 37 C.F.R. § 1.116

Application No. 10/713,256

Attorney Docket Q64625

would not make the first Office Action a final rejection in an RCE if applicants amend the claims in the proposed manner. Applicants then proceeded to file an RCE, but the Examiner has made the first Office Action in the RCE a final rejection. Applicants request the Examiner to withdraw the finality of the present Office Action in view of the above noted agreement during the above noted telephone conferences.

Claims 1-6 have been rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over the newly cited U.S. Patent No. 4,606,914 to Miyoshi.

Applicants submit that Miyoshi does not disclose or render obvious the subject matter of claims 1-6 and, accordingly, request withdrawal of this rejection.

The present invention as set forth in claim 1 is directed to a process for producing zinc oxide particles coated directly with a metallic soap, the process comprising mixing zinc oxide particles consisting of zinc oxide with a metallic soap at a temperature equal to or higher than a melting point of the metallic soap.

The present invention as set forth in claim 2 is directed to coated zinc oxide particles comprising zinc oxide particles consisting of zinc oxide and a metallic soap coated directly on the zinc oxide particles, wherein the coated zinc oxide particles are produced through the process according to claim 1.

With respect to claims 1 and 2, the Examiner states that Miyoshi teaches cosmetic compositions comprising inorganic pigments, including zinc oxide, coated with a metal salt of a fatty acid. The Examiner particularly refers to col. 2, lines 29-34 and claim 5 of Miyoshi.

Applicants disagree with the Examiner's analysis of Miyoshi.

Miyoshi discloses, at col. 2, lines 29-34, the use of N-acylamino acid salts of Al, Mg, Ca, Zn, Zr and Ti. These salts do not satisfy the definition of claim 1 of a metallic soap. As set forth in the present specification at page 7, the term "metallic soap" refers to a salt of a fatty acid having 10 or more carbon atoms. The metal salts in Miyoshi are not metal salts of a fatty acid, but rather are metal salts of an N-acylamino acid. The N-acylamino acid salts of Miyoshi are known as a surface active agent for cosmetics, and are different from the metallic soap of the present invention.

Miyoshi does refer to metallic soaps at col. 2, lines 35-47 as components which have previously been employed as conventional raw materials of cosmetic compositions, and which are applicable as treating agents of so-called extender pigments employed in such cosmetic compositions. At column 4, lines 1 to 6, Miyoshi describes a number of extender pigments, but zinc oxide is not listed as an extender pigment. Miyoshi discloses at column 3, lines 64 and 65 that zinc oxide is a pigment. Miyoshi does not specifically disclose that the metallic soaps mentioned at column 2, lines 35 to 47 are employed directly on zinc oxide.

Further, Miyoshi does not disclose the recitation of method claim 1 of mixing zinc oxide particles with a metallic soap at a temperature equal to or higher than the melting point of the metallic soap. The Examiner has completely ignored this recitation, which is not disclosed or suggested by Miyoshi.

In particular, the N-acylamino acid metal salts that are described in Miyoshi are not mixed with the pigment such as zinc oxide, but rather are formed *in situ* on the zinc oxide, as

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disclosed at col. 3, line 64 - col. 4, line 31. In this *in situ* formation, an N-acylamino acid water-soluble salt is added to a suspension containing the pigment, and while the suspension is being stirred, a water soluble salt of Al, Mg, Ca, Zn, Zr and/or Ti is gradually added dropwise so that the N-acylamino acid water-soluble salt reacts with the water-soluble metal salt of Al, Mg, Ca, Zn, Zr and/or Ti to cause the N-acylamino acid metal salt to be successively oriented and absorbed onto the surfaces of the pigment as a water-soluble salt. The concentration and drying are carried out at 80-200° C. Thus, Miyoshi does not disclose the step of mixing the metallic soap at a temperature equal to or higher than the melting point of the metallic soap.

In addition, Miyoshi does not disclose the effects of the mixing of claim 1, which are discussed below in connection with claim 2.

Thus, with respect to claim 2, the present specification contains evidence that shows that the method of forming the coated zinc oxide is an important factor in determining the properties of the coated zinc oxide, and that coated zinc oxides that are not formed in accordance with the method set forth in claim 1 have properties that are different from those that are formed in accordance with claim 1. The present specification shows that the temperature of the mixing results in a coated zinc oxide product that has improved transmittance and a smaller increase in pressure during melt kneading as compared to products which were not produced in accordance with the temperature recitations of claim 1.

In particular, Example 1 of the present specification is directly comparable to Comparative Example 3 of the present specification. In Example 1, the heating mixture temperature was 140°C, which was above the 120°C melting point of the zinc stearate. In

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contrast, in Comparative Example 3, the heating mixture temperature of the zinc stearate was below 120°C. In Comparative Example 3, the heating mixture temperature was 100°C. Table 1 at page 20 of the specification shows that coated zinc oxide of Example 1 had improved transmittance as compared to Comparative Example 3, as evidenced by a higher light transmittance at a wavelength of 550 nm, and also had a smaller increase in pressure during melting kneading. Accordingly, the present specification provides evidence that the process recitations that are incorporated into claim 2 result in a coated zinc oxide product that has improved properties as compared to products which were not produced in accordance with the method recited in claim 1 and, therefore, are different from products that were not produced in accordance with the method recited in claim 1.

With respect to claims 3 to 6, since they depend either directly or indirectly from claim 2, applicants submit that they are patentable, at least for the same reasons that claim 2 is patentable.

In view of the above, applicants submit that Miyoshi does not disclose or render obvious the subject matter of claims 1-6 and, accordingly, request withdrawal of this rejection.

Claims 1-6 and 8-14 have been rejected under 35 U.S.C. § 103(a) as obvious over the newly cited U.S. Patent No. 3,615,809 to Nagle et al alone, or in view of the combination of Nagle et al with JP 05-171130.

Applicants submit that Nagle et al and JP 05-171130 do not disclose or render obvious the subject matter of claims 1-6 and 8-14 and, accordingly, request withdrawal of this rejection.

With respect to claims 1 and 2, the Examiner states that Nagle et al teach a method of coating metallic soap on the surface of a pigment. The Examiner recognizes that Nagle et al do

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not refer to zinc oxide, but argues that zinc oxide is widely used in the art and, therefore, it would have been obvious that the broad description of pigment discussed in Nagle et al includes zinc oxide.

In the alternative, the Examiner argues that JP '130 discloses that titanium oxide and zinc oxide are two of the most common pigments in thermoplastic compositions and, therefore, it would have been obvious to employ zinc oxide as a pigment in the teachings of Nagle et al instead of the titanium dioxides that are disclosed in Nagle et al.

In response, applicants point out that Nagle et al do not contain any information on the mixing temperature of the pigment with the metallic soap or its effects. Accordingly, applicants submit that it is clear that Nagle et al do not anticipate or render obvious claim 1, which requires that the mixing be at a temperature equal to or higher than a melting point of the metallic soap.

Further, with respect to claim 2, as discussed above, the present specification contains evidence that shows that the method of forming the coated zinc oxide is an important factor in determining the properties of the coated zinc oxide and that coated zinc oxides that are not formed in accordance with the method set forth in claim 1 have properties that are different from those that are formed in accordance with claim 1.

Thus, the coated zinc oxide particles of claim 2 cannot be obtained by simply mixing zinc oxide particles with a metallic soap. The zinc oxide particles must be mixed with the metallic soap at a temperature equal to or higher than a melting point of the metallic soap.

In contrast, in Nagle et al, one or more pigments and a metal salt of a fatty acid having from 12 to 26 carbon atoms are intimately mixed, for example, stirred, tumbled, or ground so as

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to prepare pigment compositions which are readily dispersible in thermoplastic polymers. See column 1, lines 33 to 36.

Accordingly, applicants submit that Nagle et al also do not disclose or suggest the recitations of claim 2.

In addition, claims 3-14 ultimately depend from claim 2 and, therefore, applicants submit they are also patentable over Nagle et al.

Turning now to JP '130, it does not disclose or suggest the use of a metallic soap and, therefore, does not disclose or suggest mixing zinc oxide particles with a metallic soap at a temperature equal to or higher than a melting point of the metallic soap. Accordingly, JP '130 does not supply the deficiencies of Nagle et al.

In view of the above, applicants submit that Nagle et al and JP 05-171130 do not disclose or render obvious the subject matter of claims 1 to 6 and 8 to 14 and, accordingly, request withdrawal of this rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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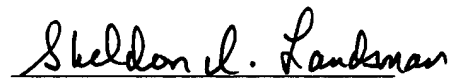
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Date: July 28, 2006